

Flushable Wipes

Rory Holmes

President, INDA (Association of the Nonwoven Fabrics Industry)



SCAP Collections System Committee Meeting
May 20th, Los Angeles, CA

History

- Around 15 Years Ago Flushable Consumer Products Became Available on a World Market
- 2003 WERF Study Recognized Need for Guidance
- 2004 NW Industry Started Work on International Guidance Document
- June 2008 Launched First Edition of INDANA/EDANA Flushability Guidance
- Until Then No Nationally Recognized Definition or Method to Assess Flushability was Available

In Europe

- **EDANA Code of Practice**
- **Holland Issues**
- **Eureau Involvement**
- **UK Concerns**

Get Industry On-Board

Goals

- **Compliance by 2010**
- **Correct Labeling of Wipes**
- **No problems at Waste Water Facilities**

Educate Industry

- **Industry Developed Guidelines**
- **Launch - WOW 2008**
- **Technical Assistance**
- **Workshop NSF**
- **Webinars**
 - ✓ **157 participated**
 - ✓ **34 people – archived webinar**

Definition of Flushability

For a product to be flushable it must:

- **Clear toilets and properly maintained drainage pipe systems under expected product usage conditions;**
- **Be compatible with existing wastewater conveyance, treatment, reuse and disposal systems; and**
- **Become unrecognizable in a reasonable period of time and be safe in the natural receiving environments.**

Qualifications

- **Flushability does not by definition equate to full biodegradability or dispersability**
- **Environmental safety must be assured through environmental safety assessments**

Participating Member Companies

Ahlstrom Corporation

Air Products

BASF The Chemical Company

BBA Fiberweb

Buckeye Technologies

Celanese Emulsions

Cotton Incorporated

Eastman Chemical Company

First Quality Nonwovens

Georgia-Pacific

Hexion Specialty Chemicals

Hollister Incorporated

INVISTA

IFTH-Institut Francais du

Johnson & Johnson

Kimberly-Clark Corporation

Lenzing AG

Metabolix, Inc.

Nice-Pak International Ltd.

PGI Nonwovens

Playtex Products Inc.

Procter & Gamble

Rockline Industries

Rohm and Haas Company

SC Johnson & Son

SCA Hygiene Products AB

Suominen Nonwovens Ltd.

Tenotex S.p.A

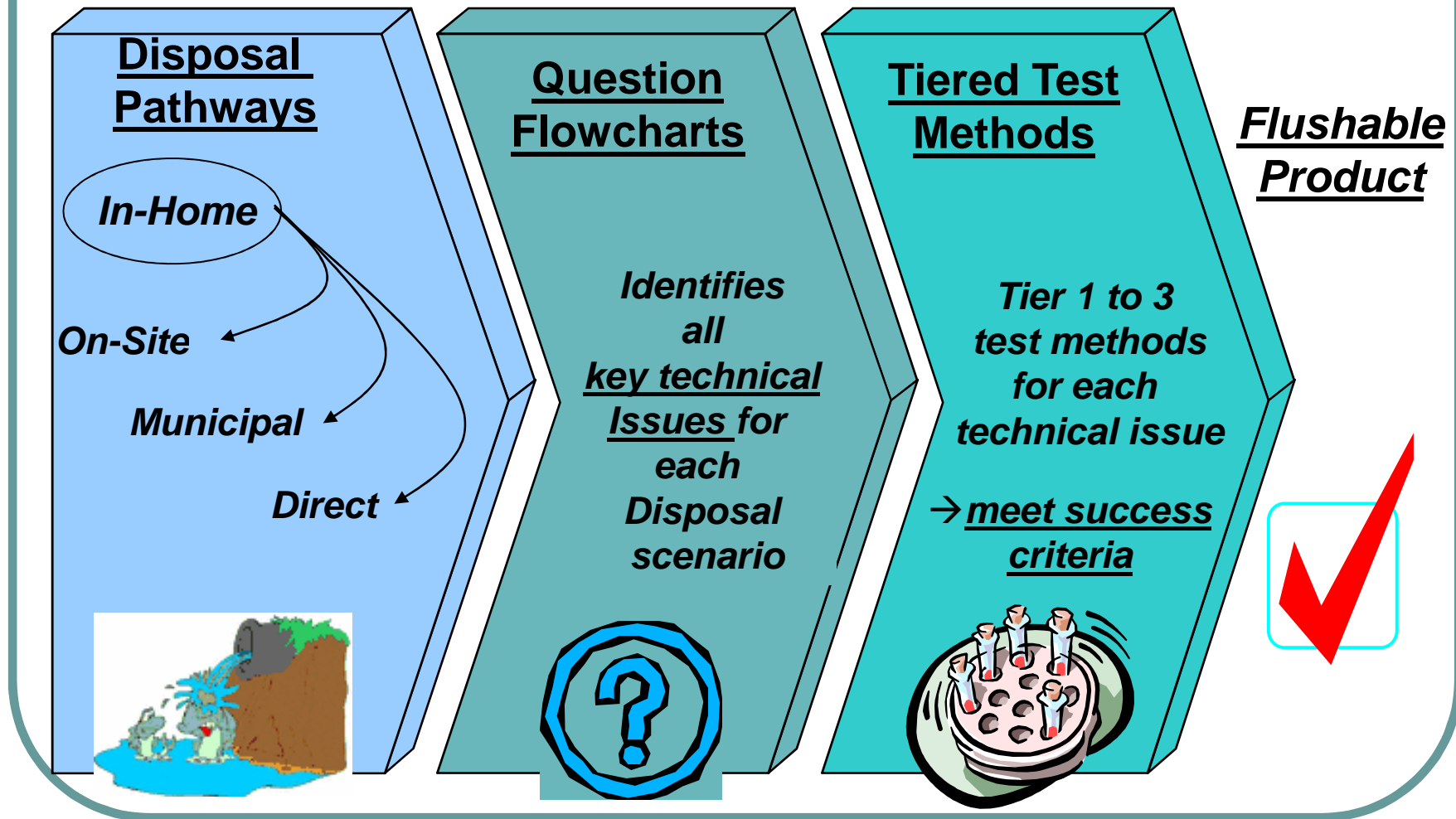
Textile et de l'Habillement

The Triad Group

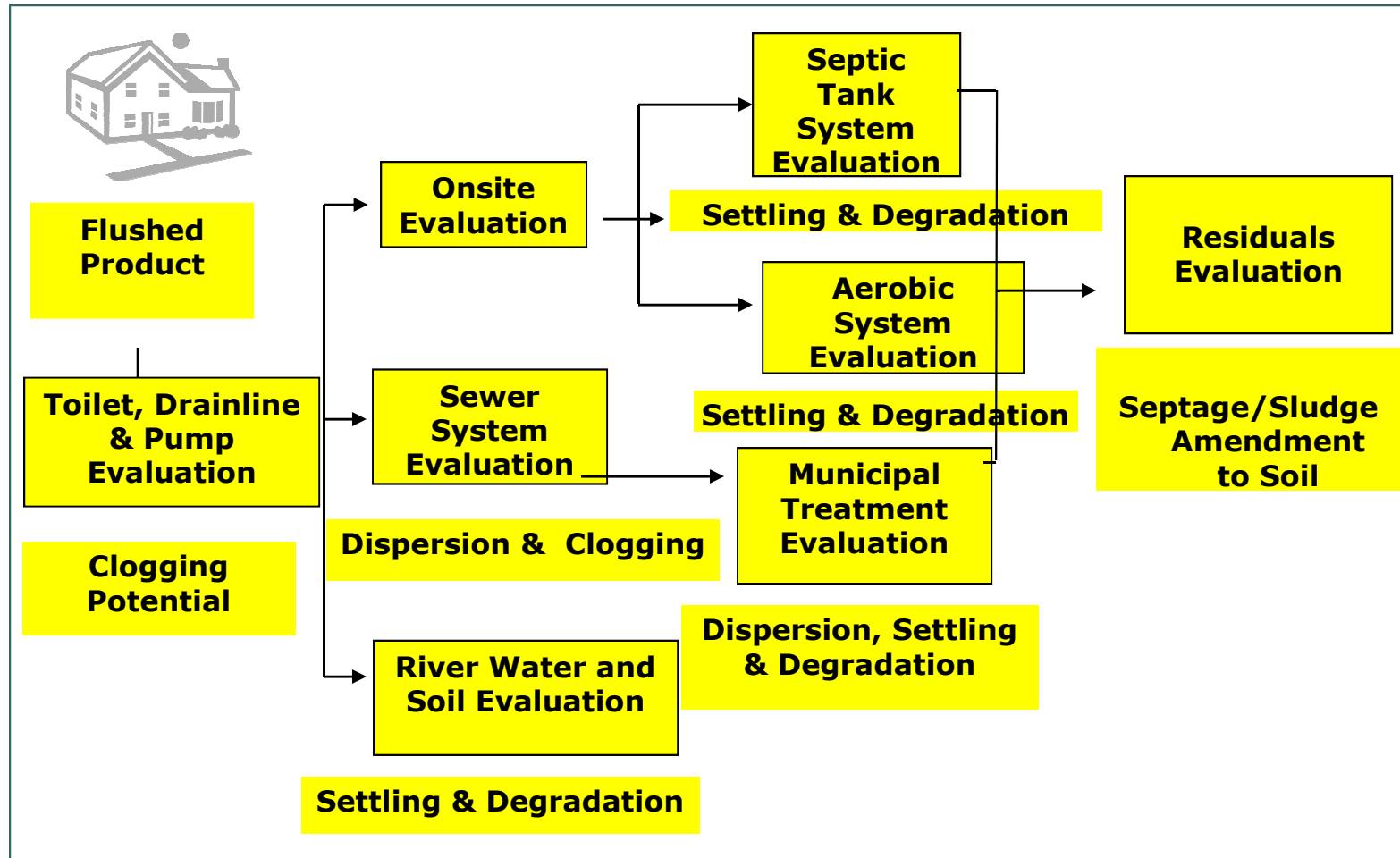
Tufco Technologies



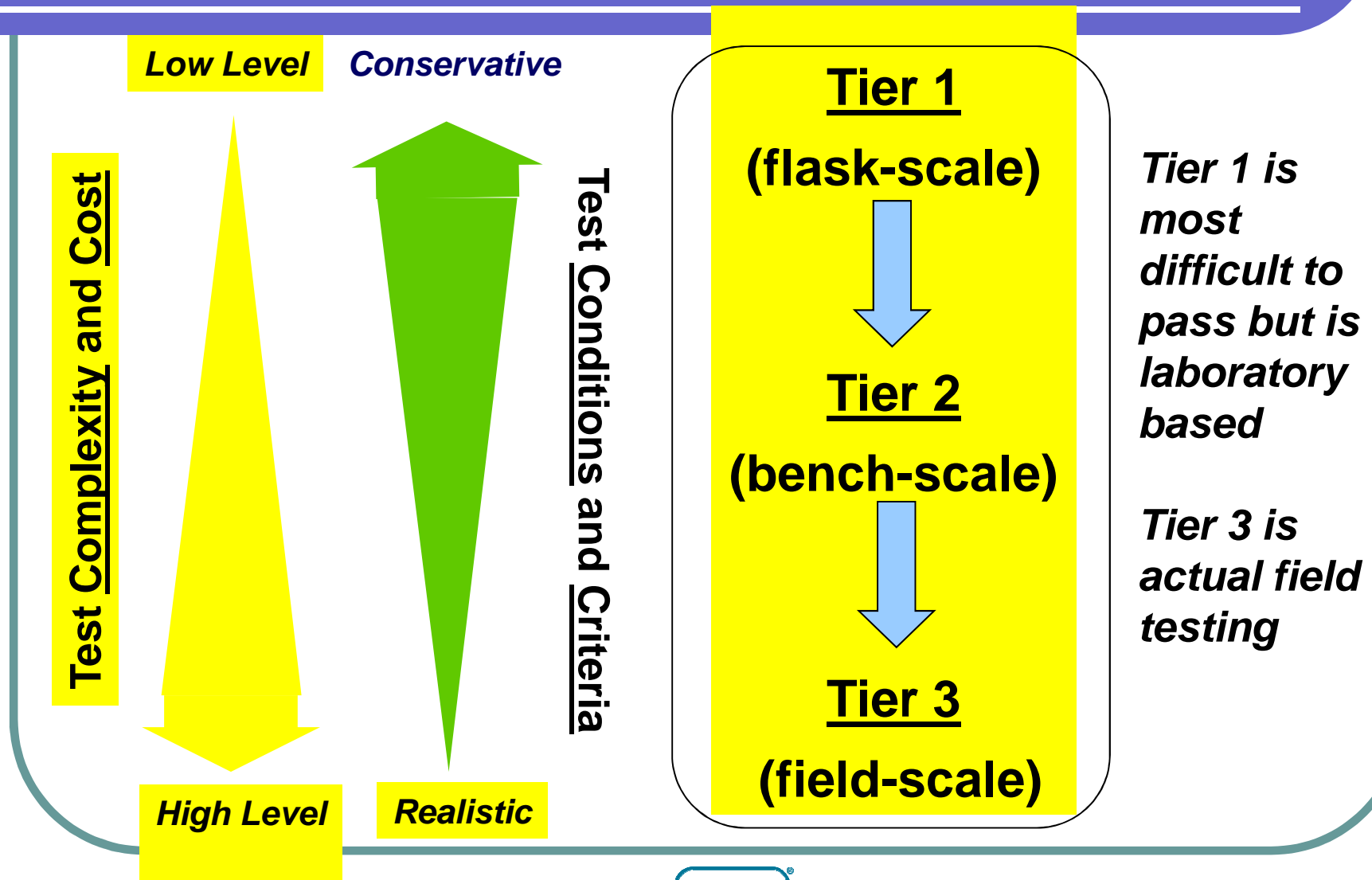
The Flushability Assessment Approach



Disposal Pathways

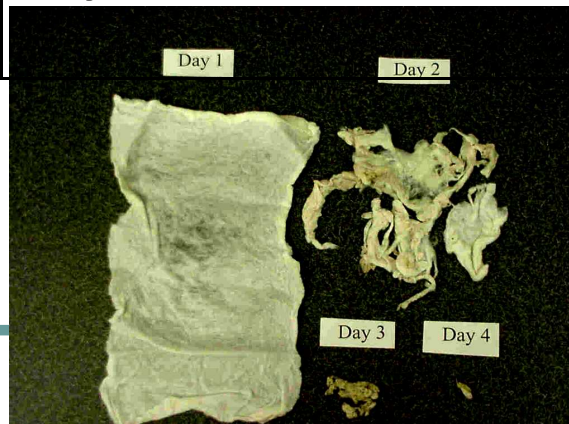


The Tiered Testing Approach



Tier 1 - FG514.1 Anaerobic Sludge Biodisintegration Test

| Test | Wet Wipe (% weight loss < 1 mm) | Toilet Tissue (% weight loss < 1 mm) |
|---|---|--|
| Anaerobic Disintegration (Incubated at 35°C) | Day 1 4.0% Day 2 21.0% Day 3 92.7% Day 4 99.8% Day 5 100% | Day 1 N/A Day 2 N/A Day 3 N/A Day 4 99.8% Day 7 100% |
| Anaerobic Disintegration (Incubated at 22°C) | Day 14 86.2% Day 28 96.8% | |



Biodisintegration

Tier 1 - FG513.1 Activated Sludge Biodisintegration Test

| Day | Wet Wipe Incubated at 20°C (% weight loss < 1 mm) | Wet Wipe Incubated at 30°C (% weight loss < 1 mm) |
|-----|---|---|
| 2 | | 98.5% |
| 3 | 66% | 100% |
| 4 | 87% | |
| 5 | 100% | |



wipe residue on sieve after 3
days at 20°C



wipe residue on sieve after 2
days at 30°C

Designed “No Flush” Logo

- **To Educate Consumer**
- **Purpose: Prevent Disposal Problems**
- **For Packaging**
- **Distributed to Wipe Manufacturers**



Company Follow-up

- **Contacted Major Manufacturers**
 - ✓ **Most Using Guidelines**
 - ✓ **Most Using “No Flush” Logo or Equivalent**

Attention: Just takes one company to cause problems for entire industry.

INDA Actions

- **Announcement to Waste Water Treatment Facilities**
- **Offered Flushability Guidelines**
- **Visit Waste Water Treatment Facilities**
- **Include WWT in Subsequent Guideline Review Process**
- **Research WWT Issues**

Reports

- 43% of SSO's are caused by blockages. Most blockages are caused by FOG. Presented by Dr. Keener at a WERF Workshop WEFTEC 2008.
- 65% of SSO's nation wide caused by FOG. Reported by Michelle Moustakas US EPA, to the CAL FOG Meeting in Oakland CA on July 14th 2009.
- 30% to 80% of blockages across the nation are caused by FOG. According to the websites of individual WWT facilities. Research by Steve Ogle April 2010.
- Conclusion: Coast to Coast FOG is a problem for WWT facilities.

Facts

- Only 30% of the content found in pumps is fibrous materials. According to a study done at 7 sewage lift stations between Dec. 2009 and Jan. 2010.
- Fibrous materials found in pumps contain Hair, Floss, Roots, Synthetic and Natural Fibers but the origin could not be traced.
- Flushable wipes are reported to be less than 1% of the 3 Billion pounds of non-woven materials produced in North America. According to INDA report.
- The Non-Wovens Industry self regulates its flushable products.

Critical Wipe Manufacturer Actions

- Implement Flushability Guidelines
- Only Label Flushable Wipes as Flushable
- Use “No Flush” Logo



Summary

- The Flushability Guidelines are a positive step in the right direction
- Second Edition Released 2009
- Third Edition is being Studied
- Nonwovens manufacturers want to work in partnership with stakeholders to address these challenges

Summary

- Innovation is generating new fabrics with enhanced properties
- New Generation Products show good equivalence between some existing flushable wipes products and toilet tissue
- Increased consumer awareness and behaviour changes in what to flush and when is critical

Summary

- The key for all of us is to continue to listen and learn as consumer needs, products and WWT systems change.

Thank You

INDA, Association of the Nonwoven Fabrics Industry

1100 Crescent Green, Suite 115

Cary, NC 27512

919-233-1210

www.inda.org

